



Ministry of
Northern Development
and Mines
Ontario

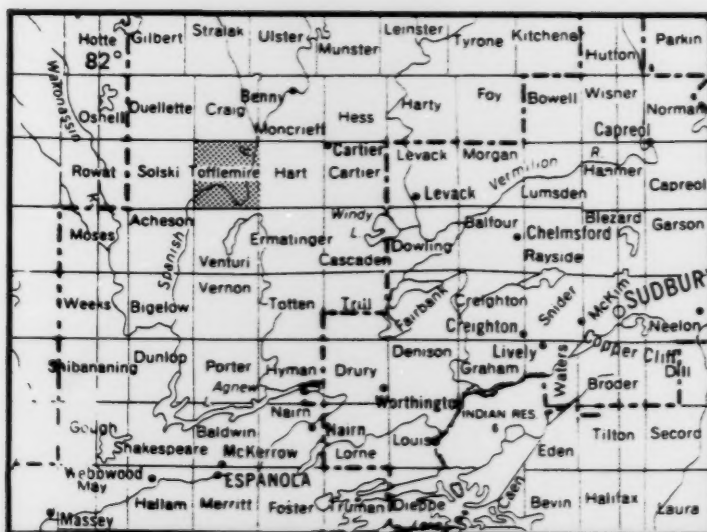
Mines and
Minerals
Division

ONTARIO GEOLOGICAL SURVEY

GEOLOGICAL DATA INVENTORY FOLIO 456

TOFFLEMIRE TOWNSHIP

Compiled by the Staff of
the Resident Geologist's Office
Sudbury



LOCATION MAP

Scale: 1:1 013 760 or 1 inch to 16 miles



This project is part of the five year Canada-Ontario 1985 Mineral Development Agreement (COMDA), a subsidiary agreement to the Economic and Regional Development Agreement (ERDA) signed by the gov-

NTS Number 41 I/12

Mining Claim Map Number M.1199

This project is part of the Canada-Ontario Mineral Development Agreement (COMDA)

STATEMENT: This inventory is unedited. Discrepancies may occur for which the Ontario Geological Survey does not assume liability. Information from this source may be quoted if credit is given. Reference to this inventory should be made as follows:

Ontario Geological Survey

1989: Tofflemire Township, Ontario Geological Survey,
Data Inventory Folio 456, compiled by the staff
of the Resident Geologist's Office, Sudbury;
14 pages and 2 Maps.

Original Compilation by: Jerome, Lucille, March, 1988

Date	Page Revised	Revised by

Date	Page Revised	Revised by

CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

If the reader wishes to convert imperial units to SI (metric) units or SI units to imperial units the following multipliers should be used:

CONVERSION FROM SI TO IMPERIAL			CONVERSION FROM IMPERIAL TO SI		
<i>SI Unit</i>	<i>Multiplied by</i>	<i>Gives</i>	<i>Imperial Unit</i>	<i>Multiplied by</i>	<i>Gives</i>
LENGTH					
1 mm	0.039 37	inches	1 inch	25.4	mm
1 cm	0.393 70	inches	1 inch	2.54	cm
1 m	3.280 84	feet	1 foot	0.304 8	m
1 m	0.049 709 7	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	1.609 344	km
AREA					
1 cm ²	0.155 0	square inches	1 square inch	6.451 6	cm ²
1 m ²	10.763 9	square feet	1 square foot	0.092 903 04	m ²
1 km ²	0.386 10	square miles	1 square mile	2.589 988	km ²
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
VOLUME					
1 cm ³	0.061 02	cubic inches	1 cubic inch	16.387 064	cm ³
1 m ³	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m ³
1 m ³	1.308 0	cubic yards	1 cubic yard	0.764 555	m ³
CAPACITY					
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	4.546 090	L
MASS					
1 g	0.035 273 96	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	31.103 476 8	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	0.453 592 37	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	907.184 74	kg
1 t	1.102 311	tons (short)	1 ton (short)	0.907 184 74	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	1016.046 908 8	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	1.016 046 908 8	t
CONCENTRATION					
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

1 ounce (troy)/ton (short)	20.0	pennyweights/ton (short)
1 pennyweight/ton (short)	0.05	ounce (troy)/ton (short)

One gram (g) per tonne is equivalent to one part per million (1 ppm).

NOTE—Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries published by The Mining Association of Canada in co-operation with the Coal Association of Canada.

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ACCOMPANYING MAPS

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Map Scale 1: 31 680 or 1 inch to ½ mile	

DATA SOURCES CHECK LIST

NOTE: The following sources have been searched to compile the data for this area. If no reference data was found the appropriate box is marked 'no'; if reference data was found, the box is marked 'yes'.

All reference data found are included in the following pages. If the box is blank, the data source has not yet been searched. If the box is marked N.A., the source item is Not Applicable to this area and therefore not searched.

SOURCES OF DATA		Data	Initial
1	Resident Geologist's Office Files	Yes	L. J.
2	Assessment Files Research Office, Toronto	N. A.	L. J.
3	ODM General Index; 9 Volumes	Yes	L. J.
4	Catalogue of Airborne Geophysical Surveys (ODM)	No	L. J.
5	ODM Mineral Resources Circulars and OGS Mineral Deposits Circulars	Yes	L. J.
6	ODM Industrial Mineral Reports	Yes	L. J.
7	Bibliography of Post Precambrian Theses - Karrow (ODM MP 1)	No	L. J.
8	Bibliography of Precambrian Theses - Ginn (ODM MP 2)	No	L. J.
9	Newspaper Clippings File	No	L. J.
10	GSC Index to Publications	No	L. J.
11	OGS Index to Published Maps and Reports - MP 77 and Supplements to MP 77	Yes	L. J.
12	OGS Index Maps	Yes	L. J.
13	Source Mineral Deposit Records (O.G.S.)	Yes	L. J.
14	Author - Subject Articles File	Yes	L. J.
15	Miscellaneous Papers: ODM & OGS	Yes	L. J.
16	ODM Geological Circulars: OGS Study Series	Yes	L. J.
17	ODM Preliminary Reports: ODM Bulletins	No	L. J.
18	ODM - OGS Open File Reports	Yes	L. J.
19	OGS Northern Ontario Engineering Geology Terrain Studies	Yes	L. J.
20	OGS Aggregate Resources Inventory Papers	No	L. J.
21	OGS Mineral Potential Maps	Yes	L. J.
22	Theses on File, Sudbury	Yes	L. J.
23	Aerial Photographs on File, Sudbury	Yes	L. J.

METALS AND MINERALS REFERENCES LIST

Δ anh.....	Anhydrite	Δ fu.....	Fuchsite	Δ Ni.....	Nickel	Δ st.....	Stone
Δ ank.....	Ankerite	Δ gn.....	Galena	Δ Nb.....	Niobium	Δ talc.....	Talc
Δ anna.....	Annabergite	Δ gt.....	Garnet	Δ Pd.....	Palladium	Δ Te.....	Tellurium
Δ ap.....	Apatite	Δ goe.....	Goethite	Δ peat.....	Peat	Δ td.....	Tetrahedrite
Δ arg.....	Argentite	Δ Au.....	Gold	Δ pent.....	Pentlandite	Δ th.....	Thorite
Δ As.....	Arsenic	Δ gf.....	Graphite	Δ Pt.....	Platinum	Δ Th.....	Thorium
Δ asp.....	Arsenopyrite	Δ gl.....	Gravel	Δ py.....	Pyrite	Δ thuc.....	Thucholite
Δ asb.....	Asbestos	Δ gyp.....	Gypsum	Δ pyl.....	Pyrochlore	Δ ti.....	Titanite
Δ ba.....	Barite	Δ hem.....	Hematite	Δ pyrl.....	Pyrolusite	Δ Ti.....	Titanium
Δ be.....	Beryl	Δ il.....	Ilmenite	Δ po.....	Pyrrhotite	Δ tour.....	Tourmaline
Δ Bi.....	Bismuth	Δ Fe.....	Iron	Δ q.....	Quartz	Δ trap.....	Trap rock
Δ bn.....	Bornite	Δ IF.....	Iron Formation	Δ qcv.....	Quartz carbonate vein	Δ W.....	Tungsten
Δ bran.....	Brannerite	Δ jas.....	Jasper	Δ ra.....	Radioactive minerals	Δ uran.....	Uraninite
Δ bruc.....	Brucite	Δ kaol.....	Kaolinite (kaolin)	Δ RE.....	Rare Earths	Δ U.....	Uranium
Δ Cd.....	Cadmium	Δ ky.....	Kyanite	Δ sd.....	Sand	Δ verm.....	Vermiculite
Δ calc.....	Calcite	Δ Pb.....	Lead	Δ sgl.....	Sand and gravel	Δ Y.....	Yttrium
Δ carb.....	Carbonate	Δ lim.....	Limonite	Δ ss.....	Sandstone	Δ Zn.....	Zinc
Δ cel.....	Celestite	Δ Li.....	Lithium	Δ scap.....	Scapolite	Δ zr.....	Zircon
Δ cc.....	Chalcocite	Δ mgst.....	Magnesite	Δ shee.....	Scheelite		
Δ cp.....	Chalcopyrite	Δ mag.....	Magnetite	Δ serp.....	Serpentine		
Δ ch.....	Chert	Δ mc.....	Malachite	Δ sh.....	Shale		
Δ clay.....	Clay	Δ Mn.....	Manganese	Δ sid.....	Siderite		
Δ Co.....	Cobalt	Δ mb.....	Marble	Δ si.....	Silica		
Δ cob.....	Cobaltite	Δ mar.....	Marcasite	Δ Ag.....	Silver		
Δ cb.....	Columbite	Δ ma.....	Marl	Δ sl.....	Slate		
Δ Cu.....	Copper	Δ mi.....	Mica	Δ sm.....	Smaltite		
Δ cor.....	Corundum	Δ ml.....	Millerite	Δ sod.....	Sodalite		
Δ dol.....	Dolomite	Δ mo.....	Molybdenite	Δ spec.....	Specularite		
Δ ep.....	Epidote	Δ Mo.....	Molybdenum	Δ sp.....	Sphalerite		
Δ ery.....	Erythrite	Δ mon.....	Monazite	Δ spd.....	Spodumene		
Δ fel.....	Feldspar	Δ ne.....	Nephelinite (nepheline)	Δ staur.....	Staurolite		
Δ fl.....	Fluorite (fluorspar)	Δ nc.....	Niccolite	Δ stib.....	Stibnite		

Solid triangles indicate metal and mineral occurrences shown on the accompanying maps.

MINERAL OCCURRENCES			Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
Map Ref. Letter	Name(s)	Mineralization			

[illegible]

DRILLHOLE SUMMARY		Company Drillhole Number	Date Drilled	Bearing Azimuth Degrees	Initial Dip of Hole Degrees	Thickness of Overburden Feet	Total Length of Hole Feet	Mineralization Noted in Log	Assay Date Included for
Map Drilling Location Number	Company Name								

AIRBORNE GEOPHYSICAL SURVEY DATA		Flight Line Altitude	Flight Line Direction	Flight Line Spacing

GDIF FORM NO. 4

Map Sample Site Reference Number	GEOCHEMICAL SURVEY DATA		By	Reference
	Type of Survey	Analysis For		

MISCELLANEOUS DATA

AGE DATING

Site	Method	Material	Reference	Result

The Spanish River Carbonatite Complex lies within the townships of Tofflemire and Venturi. It has been prospected for tin, vermiculite, niobium and residual apatite. Vermiculite was found in the complex. For simplicity, the occurrence appears in the Venturi Township G.D.I.F. No. 432 and not in this publication.

NEWSPAPER CLIPPINGS FILE

NOTE: A file of newspaper clippings about the companies listed below, who have worked in this area, is maintained in the Regional/Resident Geologist's Office.

ODM GENERAL INDEX SEARCH

Words searched:

BURNS, ISAAC
 CANADIAN JOHNS-MANVILLE CO.
 INTERNATIONAL MINERALS AND CHEMICAL CORP.
 TOFFLEMIRE TOWNSHIP
 TOWNSHIP 108
 UNION CARBIDE EXPLORATION LTD.

Index Volume	Listing:	Report Volume	Part	Page
4	Canadian Johns-Manville Co. Ltd. Capital; officers; operations	59	2	1
9	International Minerals and Chemical Corp. (Canada) Ltd. Venturi and Tofflemire Tps., Sudbury Dist.	MP 75		77
9	Tps. 107 & 108 Complex Analysis, chem. Analysis, modal Analysis, trace elements	GR 157 GR 157 GR 157		92 93, 98 92

Author	Date	SELECTED REFERENCES		Reference	Map Scales and/or Report Pages
		Title			
		<u>REGIONAL GEOLOGICAL COMPILATION MAPS</u>			
Card, K. D.	1965, 67	Cartier Sheet		Map P.287	1" = 2 miles
Card, K. D., Innes, D. G.	1980	Bluewater Lake		OGS Map 2434	1" = 1/2 mile
	1976	Benny Area, Cartier-Carhess Lake Sheet		ODM Map P.1111	1" = 1/4 mile
		Benny Area, Spanish-Johnson Lakes Sheet		ODM Map P.1110	1" = 1/4 mile
Card, K. D., Lumbers, S. B.	1974, 75	Sudbury-Cobalt Geological Compilation (revised)		OGS Map 2361	1" = 4 miles
Marmont, C.	1986	Geology of Tofflemire, Venturi and Vernon Townships		Map P.2960	1" = 1/4 mile
		<u>GEOPHYSICAL MAPS</u>			
GSC -ODM	1965	Aeromagnetic Map- Cartier		1524G	1" = 1 mile
Gupta, V. K.	1981	Bouguer Gravity and Generalized Geological Map of the Sudbury-Onaping Lake Area		OGS Map P.2482	1:100,000
ODM GSC	1965	Aeromagnetic Map Sudbury Sheet		7067G	1" = 4 miles
	1976	Uranium Reconnaissance Program Airborne Gamma Ray Spectrometer Survey, Sudbury		Map P.1610	1:250,000
		<u>SURFICIAL, PLEISTOCENE, TERRAIN ENGINEERING</u>			
EMR	1975	Topographic Map, Cartier			1:50,000
Gartner, J. F.	1980	N.O.E.G.T.S. Data Base Map, Cartier		Map 5000	1:100,000
		N.O.E.G.T. Study 94, Cartier Area			
		N.O.E.G.T.S. General Construction Capability Map, Cartier		Map 5004	1:100,000

Author	Date	SELECTED REFERENCES		Reference	Map Scales and/or Report Pages
		Title			
Sado, E. V., Carswell, B.	1987	Surficial Geology of Northern Ontario <u>MINERAL POTENTIAL MAPS</u>		OGS Map 2518	1:1,200,000
Springer, J.	1977	Ontario Mineral Potential, Northern Part of Sudbury Sheet and Part of North Bay Sheet		OGS Map P.1512	1:250,000
Yundt, S. E. et al	1983	Industrial Minerals of Ontario <u>GEOCHEMICAL MAPS</u>		OGS Map P.2591	1:500,000
		No data available March 28, 1988			
		<u>GEOLOGICAL REPORTS AND MAPS</u>			
Adlington, R.	1982	Tofflemire Township - Sudbury Data Series		Map P.2539	1" = 1/4 mile
Card, K. D., Innes, D. G.	1981	Geology of the Benny Area		GR 206	
Card, K. D., Innes, D. G. and Debicki, R. L.	1977	Stratigraphy, Sedimentology and Petrology of the Huronian Supergroup in the Sudbury-Espanola Area		OGS Study 16	
Guillet, G. R.	1962	Vermiculite in Ontario with an Appendix on Perlite		IMR 7	
Marmont, C.	1986	Geology of Tofflemire, Venturi and Vernon Townships		OFR 5624 Map P.2960	
Sage, R. P.	1987	Geology of Carbonatite-Alkalic Rocks Complexes in Ontario: Spanish River Carbonatite Complex		OGS Study 30	1" = 1/4 mile
Thomson, J. E.	1960	Uranium and Thorium Deposits at the Base of the Huronian System in the District of Sudbury		GR 1	

SELECTED REFERENCES			Reference	Map Scales and/or Report Pages
Author	Date	Title		
Thurston, P. C. et al	1977	Geology of the Chapleau Area, Districts of Algoma, Sudbury and Cochrane	GR 157	pp. 92,93,98
Vos, M. A. et al	1987	Industrial Minerals of Northern Ontario	MDC 26	
Vos, M. A. and Smith, V.	1983	Industrial Minerals of Northern Ontario - Supplement 2	OFR 5439	pp. 106-107
		<u>JOURNALS, ARTICLES, THESES, TECHNICAL REPORTS</u>		
Boissonneau, A. N.	1968	Glacial History of Northeastern Ontario II. The Timiskaming-Algoma Area	C.J.E.S. Vol. 5	pp. 97-109
McLennan, S. M., Fryer, B. J. and Young, G. M.	1979	The Geochemistry of the Carbonate-Rich Espanola Formation (Huronian) with Emphasis on Rare Earth Elements	C.J.E.S. Vol. 16	pp. 230-239
Proudfoot, D. N.	1971	Petrology of the Carbonatite Complex in Tps. 107-108, Ontario	Sudbury Theses File	
Robertson, W. H. and Watkinson, D. H.	1974	Paleomagnetism of the Spanish River Alkaline Rock-Carbonatite Complex, Tps. 107 & 108, Ontario	C.J.E.S. Vol. 11	p. 795
Satterly, J.	1977	A Catalogue of the Ontario Localities Represented by the Mineral Collection of the Royal Ontario Museum	MP 70	p. 423

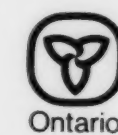
NOTES AND ADDENDA

AERIAL PHOTOGRAPHS INDEX

Scale 1" = 1/4 mile

Sudbury Files

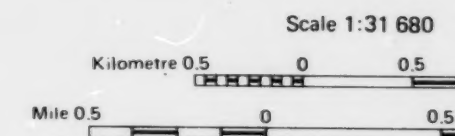
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1973	14	4629	101-106
	21	4628	138-143
	23	4627	142-149
1959	11	4628	55-61
	65	4627	86-91

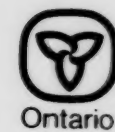


Ministry of
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ONTARIO GEOLOGICAL SURVEY
PROPERTY LOCATION
GEOLOGICAL DATA INVENTORY
(Map 1 of 2)

TOFFLEMIRE TOWNSHIP





Ministry of
Northern Development
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Mines and
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Division

ONTARIO GEOLOGICAL SURVEY

PROPERTY LOCATION MAP

GEOLOGICAL DATA INVENTORY FOLIO 456

(Map 1 of 2)

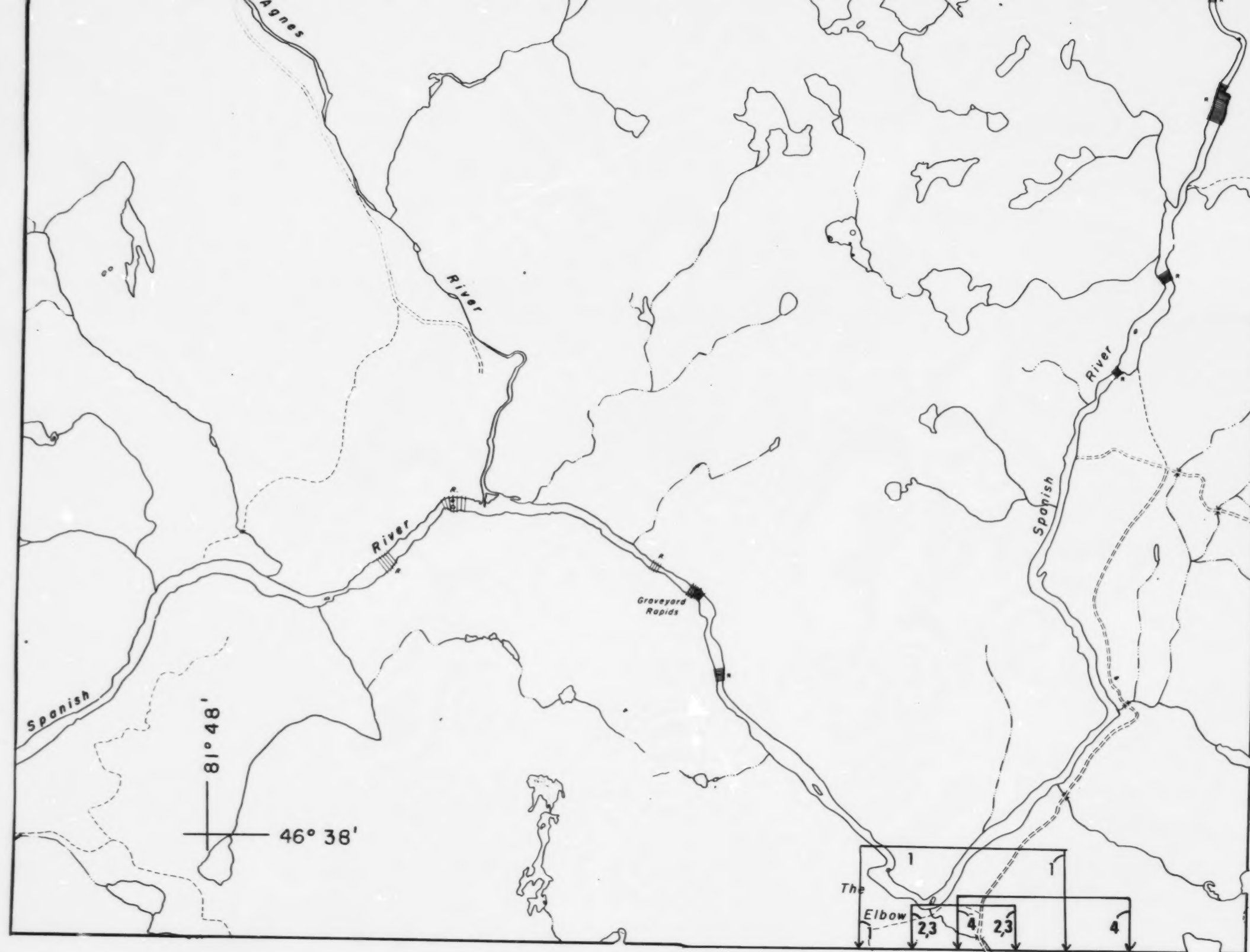
TOFFLEMIRE TOWNSHIP

Scale 1:31 680

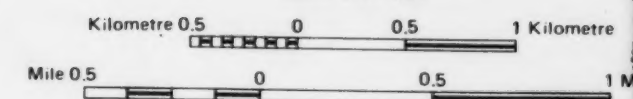
Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile

TOFFLEMIRE TOWNSHIP



Scale 1:31 680

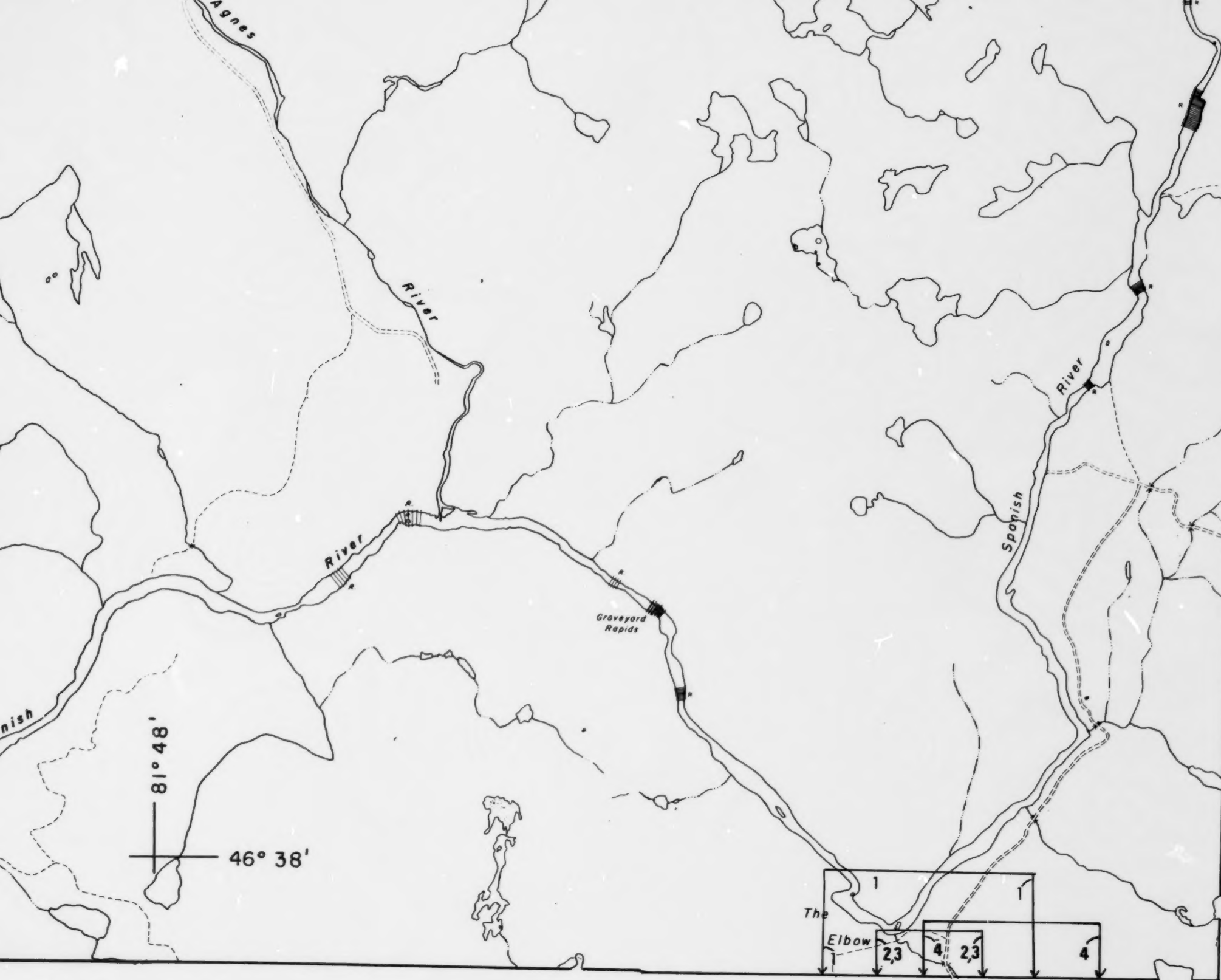
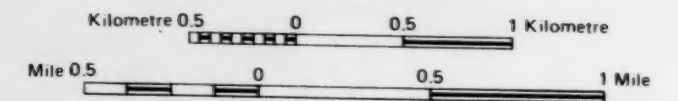


EXPLORATION DATA FILE AREAS

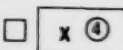
- Reference number is always inside work area outline. See listing in text pages.
- Small area of exploration
- File covers whole township or area

TOFFLEMIRE TOWNSHIP

Scale 1:31 680



EXPLORATION DATA FILE AREAS

-  Reference number is always inside work area outlined. See listing in text pages.
-  Small area of exploration
-  File covers whole township or area

TYPES OF DATA SHOWN ON THIS MAP

GEOCHEMICAL AND GEOCHRONOLOGICAL DATA

- ☐  Geochemical sample site, with reference number
- ☐  Area of geochemical sampling, with reference number
- ☐  Age dating material sampling site, with reference number

GEOPHYSICAL ANOMALIES

- ☐  Airborne magnetic anomaly
- ☐  Airborne electromagnetic anomaly
Length of anomaly along flight line
- ☐  Airborne electromagnetic anomaly
Location of anomaly along flight line
- ☐  Airborne electromagnetic anomaly
Conductor axis: definite, probable, possible
- ☐  Airborne radiometric anomaly
- ☐  Ground magnetic anomaly
- ☐  Ground electromagnetic anomaly
(VL - Vertical loop; HL - Horizontal loop
VLF - Very low freq.; Turam; JEM -
Crone Em - 16)
- ☐  Ground radiometric anomaly
- ☐  Induced polarization anomaly
- ☐  Self potential anomaly
- ☐  Audio-frequency magnetic anomaly
(total intensity)
- ☐  Resistivity anomaly
- ☐  Gravity anomaly





Ministry of
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Mines and
Minerals
Division

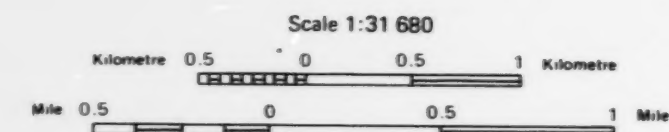
ONTARIO GEOLOGICAL SURVEY

EXPLORATION DATA MAP

GEOLOGICAL DATA INVENTORY FOLIO 456

(Map 2 of 2)

TOFFLEMIRE TOWNSHIP



GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- ☐ Mineral occurrence at surface, with reference letter
- ☐ Mineral occurrence with shaft, depth given with reference letter
- ☐ Mineral occurrence reported but exact location uncertain, with reference letter
- ☐ Mineralized float with reference letter
- ☐ Mineral occurrence in drillhole, with reference letter, and drillhole number

DRILLHOLES

- ☐ Location of single drillhole, with reference number

GEOPHYSICAL ANOMALIES

- ☐  Airborne magnetic anomaly
- ☐  Airborne electromagnetic anomaly
Length of anomaly along flight line
- ☐  Airborne electromagnetic anomaly
Location of anomaly along flight line
- ☐  Airborne electromagnetic anomaly
Conductor axis: definite, probable, possible
- ☐  Airborne radiometric anomaly
- ☐  Ground magnetic anomaly
- ☐  Ground electromagnetic anomaly
(VL - Vertical loop; HL - Horizontal loop
VLF - Very low freq.; Turam; JEM -
Crone Em - 16)
- ☐  Ground radiometric anomaly
- ☐  Induced polarization anomaly
- ☐  Self potential anomaly
- ☐  Audio-frequency magnetic anomaly
(total intensity)
- ☐  Resistivity anomaly
- ☐  Gravity anomaly

MISCELLANEOUS DATA

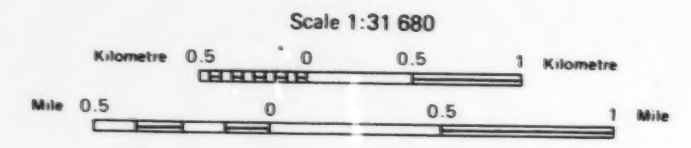
- | | |
|---|---|
| ☐  Trenching, pit | ☐  Rock quarry |
| ☐  Adit | ☐  Sand and/or gravel pit |
| ☐  Open pit | ☐  |

NOTE: Consult the text that accompanies this map for pertinent lists of data, references, and abbreviations.





TOFFLEMIRE TOWNSHIP



GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- ☐ Mineral occurrence at surface, with reference letter
- ☐ Mineral occurrence with shaft, depth given with reference letter
- ☐ Mineral occurrence reported but exact location uncertain, with reference letter
- ☐ Mineralized float with reference letter
- ☐ Mineral occurrence in drillhole, with reference letter, and drillhole number

DRILLHOLES

- ☐ Location of single drillhole, with reference number
- ☐ Location of closely spaced group of drillholes, with reference number
- ☐ Drillhole, exact location uncertain, with reference number
- ☐ Property with underground drillholes in this general area, with reference number
- ☐ Property with drillholes which have not been plotted on map, with reference number
- ☐ Reverse circulation drillhole; churn drilling, with reference number